ABSTRACT

Iris is one of human features which does not change in a very long time besides fingerprint. Human iris is never the same as others despite of twins, moreover right iris and left iris are different. Besides as feature, we can detect someone's disorder through iris. The knowledge of disorder through iris is called iridology.

In this final project, is made a system to detect heart disorder on human through iris. The part of iris which reflects heart disorder will be segmented where it is located on 2.10 to 3.05 o'clock. After segmentation, will be used Principal Component Analysis for features extraction. Principal Component Analysis is a technique which is used for shortening some data by transformating the data linearly that it makes a new coordinate system with maximum varians. The result of features extraction will be classified using K-Nearest Neighbor algorithm. K-Nearest Neighbor is an algorithm for classifying of objects by the nearest value. In this final project, it is resulted the best accuracy 82.50% with parameters of k value is 3, 4, 5, or 6 and 10 of training features extraction.

Keywords: Iris, iridology, Principal Component Analysis, and K-Nearest Neighbor.